

REMARKS

The present invention is an antenna comprising an element as defined on lines 23-25 of page 1 of the specification in the Summary of the Invention. An example of the element is illustrated in Fig. 3. The element is formed from conductor patterns 42 on a plurality of layers of a multilayer PCB 40. The conductor patterns are in a stacked relation and interconnected through the PCB by vias 52.

Claims 1-4, 9-12, 17-20 and 25-28 stand rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent 6,348,892 (Annamaa et al). Specifically, the Examiner reasons as follows:

Regarding these claims, Annamaa et al show an antenna for a portable phone in Fig.1,2 and 4-7 where the antenna is formed on the edge of a multiplayer PCB 570,550,540 above a ground plane and connected through the layers thereof with vias 502,503 and 504 from the antenna 520,530,560 to the ground plane 510, all arranged as claimed.

This ground of rejection is traversed for the following reasons.

The Examiner's Response to Arguments is as follows:

Applicant's arguments filed 10/06/2003 have been fully considered but they are not persuasive. Specifically, all of the limitations of the claimed elements are shown in the reference. The antenna, is formed as multiple conductive patterns on substrates. The frequency of operation differs and the antenna element is disposed over a common ground plane. The antenna element has the conductive layers connected together. Applicant's arrangement is also formed as multi-layered configurations, commonly fed. It is important to note that the antenna of Annamaa et al. is fed with a single feeder connected to the radio circuitry. The amendment emphasizing the "element" as a single element does not overcome the rejection employing the Annamaa et al reference. Since all claimed subject matter is shown in Annamaa et al, it is not seen that the claims at hand patentably define thereover. The rejection stands.

The Examiner's premise for the rejection, as stated in the Response to Arguments, erroneously defines the whole antenna as an element. This statement is contrary to the word "element" as specifically defined in the specification in the above-noted portion of Summary of the Invention. As the Examiner is aware, the Applicant may be his own lexicographer. The specification teaches that an antenna element is that which is understood to be conventionally in the art. In such a situation, the Examiner is constrained to define the term "element" as what a person of ordinary skill in the art understands an antenna element to be.

There is abundant evidence in the record of what an antenna element is which is consistent with the definition given thereto in the specification. The Annamaa reference, contrary to the Examiner's opinion of what constitutes an antenna element, in fact, refers to multiple antenna elements. In the Annamaa reference, the term "element" is correctly used in context of what an antenna element is understood to be by those of ordinary skill in the art. The understood definition of an antenna element is exclusive of the Examiner's definition which considers the Annamaa reference to disclose a single antenna element where even the Annamaa reference recognizes the presence of multiple elements in their specification. The specification of the present application, as stated above, leaves no doubt that the meaning of an element in the claims is to be that understood in the art which is consistent with the usage of elements in the Annamaa reference upon which the Examiner relies on grounds of anticipation with the Annamaa reference teaching multiple antenna elements.

Also submitted herewith as additional evidence of the meaning of antenna elements are publications describing antennas describing an antenna element as

defined by the Applicant in the specification and in the Annamaa reference. It is requested that the Examiner make the enclosed publications of record in the enclosed form. The submission of the listed references is being made to respond to the Examiner's interpretation of an "antenna element".

Once the meaning of an antenna "element" is properly construed, the claims differ in three principle ways.

First, the Annamaa reference discloses and describes a multi element configuration as the term element is described in the specification of the present invention and as used in the claims. The Examiner should note the description of the embodiments of the Annamaa reference of Fig. 3, Fig. 4a, Fig. 5a and Fig. 6 all refer to multiple elements whereas the claims are limited to "the element". Accordingly, the recitation in claim 1 of "the element..." is not met in view of Annamaa reference teaching multiple elements which the Examiner erroneously defines as one element.

Additionally, while the Annamaa reference does teach a configuration of conductive layers separated by dielectric layers, it is submitted that a person of ordinary skill in the art would not consider the disclosed structure to be a multilayer PCB.

Finally, claim 1 recites an interconnection through the multilayer PCB of the conductor patterns which are in stacked relation. While conductors between layers are depicted in Figs. 4b, 5b and 6b of the Annamaa reference, these conductors do not read upon the interconnection through the PCB for the reasons that the insulated conductive layers of the Annamaa reference do not constitute a PCB.

Claim 17 defines a mobile antenna including an antenna comprising an element formed from conductor patterns on a plurality of layers of a multilayer PCB, wherein the conductor patterns are in stacked relation and interconnected through the PCB. The same three differences noted above with respect to claim 1 are also the differences between claim 17 and the Annamaa reference.

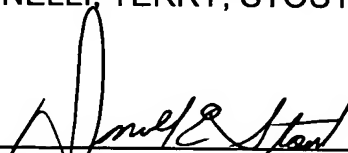
The dependent claims define more specific aspects of the present invention which are not anticipated.

In view of the foregoing remarks, it is submitted that each of the claims in the application is in condition for allowance. Accordingly, early allowance thereof is respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 C.F.R. §1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (1076.41311X00) and please credit any excess fees to such Deposit Account.

Respectfully submitted,

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Attachments

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